

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

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iFLY HOLDINGS LLC, §  
§  
§  
*Plaintiff,* §  
§  
v. § Case No. 2:14-CV-1080-JRG-RSP  
§  
INDOOR SKYDIVING GERMANY GMBH, §  
§  
*Defendant.* §  
§  
§

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**MEMORANDUM OPINION AND ORDER**

On September 30, 2015, the Court held a hearing to determine the proper construction of the disputed claim terms in United States Reissued Patent No. RE43,028 (“the ’028 Patent”). After considering the arguments made by the parties at the hearing and in the parties’ claim construction briefing (Dkt. Nos. 45, 55, and 59), the Court issues this Claim Construction Memorandum and Order.

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## I. BACKGROUND

On September 23, 1998, the patentees filed provisional Application No. 09/159,369 (“the Provisional Application”). On June 2, 1999, the patentees filed a continuation-in-part application, Application No. 09/324,282 (the “CIP Application”), adding new matter to the specification and amending the claims of the Provisional Application. (Dkt. No. 55 at 6.) The patentees also amended the title from “Vertical Wind Tunnel Amusement Device” to “Vertical Wind Tunnel Training Device.” (*Id.*)

On July 4, 2000, the CIP Application issued as U.S. Patent No. 6,083,110 (“the ’110 Patent”). (*Id.*) On July 3, 2002, the patentees filed a reissue application, Application No. 10/189,698, seeking to enlarge the scope of the claims of the ’110 Patent. (*Id.* at 6-7.) During the prosecution of the reissue application, the patentees added new claims and amended other claims. (*Id.*) The reissue application was allowed on September 8, 2011, and issued as the ’028 Patent on December 13, 2011. (*Id.*) As indicated, the ’028 Patent is a continuation-in-part to of the Provisional Application filed on September 23, 1998.

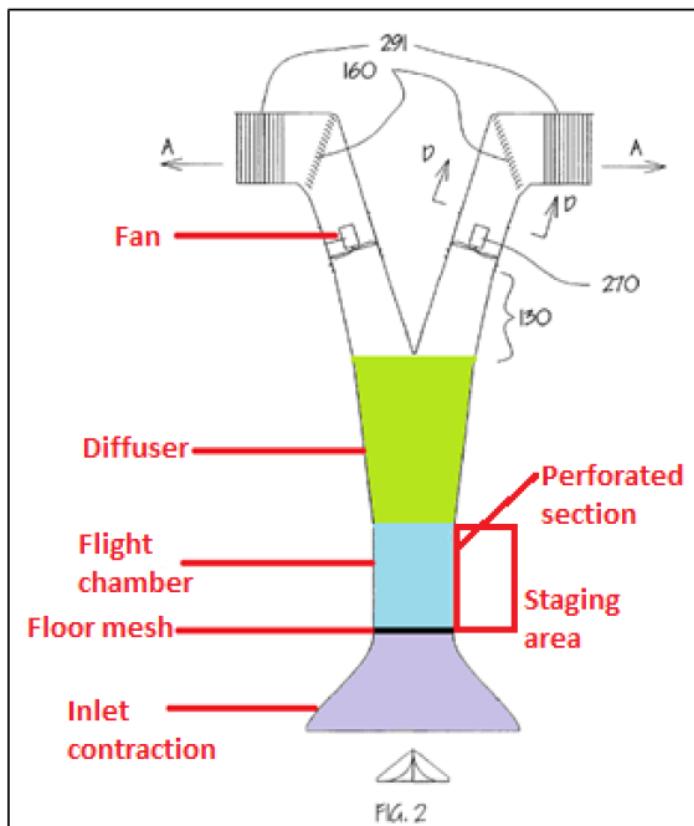
The ’028 Patent generally relates to a vertical wind tunnel device configured to allow a user to experience “freefall” within a vertical airflow column. *See* ’028 Patent at Abstract.<sup>1</sup>

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<sup>1</sup> The Abstract of the ’028 Patent follows:

The present invention is a vertical wind tunnel amusement device. The device comprises a flight chamber wherein a user may experience a freefall through the atmosphere from the safety of an enclosed flight chamber. Airflow sufficient to fully support a user within the flight chamber is induced by a plurality of fans connected above the flight chamber through a duct. A staging area having openings to the flight chamber is adjacent to the flight chamber. A user may enter or retreat from the flight chamber at will through the staging area openings without significantly adjusting the airflow velocity in the flight chamber. A control room is adjacent to the flight chamber whereby an operator may observe a user or users within the flight chamber and thereby safely control the operation of the fans. A projection room is also adjacent to the flight chamber whereby a video of a skydiving experience may be displayed to a user within the flight chamber. A telemetry backpack may be worn by a user or users in the flight chamber so the user can interact with or choose the scenes being projected on the flight chamber.

Figure 2 of the '028 Patent illustrates an exemplary embodiment of the vertical wind tunnel.



*Id.* at Figure 2 (annotated).<sup>2</sup> The specification states that “airflow is induced through the flight chamber by a plurality of fans located above, i.e. downstream of, the flight chamber.” *Id.* at 3:21–23. The specification discloses that the flow path begins at the inlet contraction where “[a]mbient air is drawn into the inlet contraction starting with essentially zero velocity.” *Id.* at

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In alternate embodiment, return air ducts are used to return air from each fan to the wind tunnel inlet. Dampers are included on each return air duct thereby allowing the temperature of the airflow in the wind tunnel to be adjusted for user comfort.

<sup>2</sup> The annotated figure includes labels, color coding, and a “staging area” that were added by Plaintiff for clarity. (Dkt. No. 45 at 7.) The specification states that the vertical wind tunnel includes an inlet contraction (purple) connected to the lower end of the flight chamber (blue). '028 Patent at 5:25–26. The specification further states that a diffuser (green) is connected above the flight chamber (blue). *Id.* at 5:26–27. The specification also states that adjacent to the flight chamber is a staging area. *Id.* at 3:50–51. The specification further describes the flight chamber as having a floor mesh and a perforated section. *Id.* at 3:37–38, 4:1–14.

3:33–35. The specification adds that “[t]he inlet contraction is aerodynamically designed to allow the incoming airflow to be accelerated to the optimum velocity with as little turbulence as possible.” *Id.* at 3:35–37.

The specification continues that “[t]he airflow then passes through a floor mesh into the flight chamber.” *Id.* at 3:38–39. The specification states that “[t]he airflow velocity in the flight chamber is approximately 120+ mph, which will fully support a user.” *Id.* at 3:41–43. The specification discloses that the diffuser, located above the flight chamber, has an increasing cross-sectional area that “reduces the velocity of the airflow from the flight chamber to the fans.” *Id.* at 4:16–17. The specification further discloses that “[t]he velocity of the airflow through the invention is controlled by either changing the pitch of the fans or by changing the rotational speed of the fans.” *Id.* at 4:18–20.

Regarding the flight chamber, the specification states that it “has a constant cross-section along its length,” and “experiences the maximum airflow velocity in the airflow path and, therefore, the greatest aerodynamic stress.” *Id.* at 6:35–39. The specification adds that the preferred embodiment of the flight chamber has ten sides, with two of the sides providing an opening from the staging area that allows a user to enter and exit the flight chamber. *Id.* at 7:20–26. The specification further states that a user may fly in the flight chamber for a given amount of time before exiting back into the staging area via the opening. *Id.* at 7:47–50. The specification also discloses that the flight chamber has a floor mesh designed to allow the air to flow through the flight chamber with minimal frictional loses. *Id.* at 10:12–14. The specification adds that the floor mesh provides support for the user and is designed to decrease the chance of injury if a user should fall. *Id.* at 10:10–14.

Plaintiff alleges that Defendant infringes claims 1, 2, 3, 12–16, 18, 19, 21, 22, 28–30, 43, and 44 of the ’028 Patent. Claim 1 of the ’028 Patent is exemplary and recites the following

elements (disputed term in italics):

1. *A vertical wind tunnel amusement device comprising: a chamber for containing an airflow; a fan whereby an airflow is induced in said chamber; said fan communicating with said chamber by a duct; a staging area forming an outer chamber adjacent to said chamber, said staging area aerodynamically communicating with said chamber; an opening aerodynamically communicating with said chamber; and an upper section comprising perforations above said opening and between said staging area and said chamber whereby said staging area further aerodynamically communicates with said chamber.*

## II. APPLICABLE LAW

### A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313. *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim

can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352,

1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

## **B. Construction Indefiniteness**

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112 ¶ 2. Whether a claim meets this definiteness requirement is a matter of law. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1344 (Fed. Cir. 2007). A party challenging the definiteness of a claim must show it is invalid by clear and convincing evidence. *Takeda Pharm. Co. v. Zydus Pharms. USA, Inc.*, 743 F.3d 1359, 1368 (Fed. Cir. 2014). The ultimate issue is whether someone working in the relevant technical field could understand the bounds of a claim. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 783 (Fed. Cir. 2010). Specifically, “[a] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those

skilled in the art about the scope of the invention.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

### III. CONSTRUCTION OF AGREED TERMS

The parties agreed to the constructions of the following terms:

Claim Term/Phrase	Agreed Construction
“perforations”	plain and ordinary meaning
“whereby each of said cables is preloaded”	plain and ordinary meaning

Dkt. No. 55 at 19, 34. In view of the parties’ agreement on the proper construction of the identified terms, the Court hereby **ADOPTS** the parties’ agreed constructions.

### IV. CONSTRUCTION OF DISPUTED TERMS

The parties’ dispute focuses on the meaning and scope of seven terms/phrases in the ’028 Patent.

#### 1. “vertical wind tunnel amusement device”

Disputed Term	Plaintiff’s Proposal	Defendant’s Proposal
“vertical wind tunnel amusement device”	“vertical wind tunnel for simulating skydiving by supporting a person in an airflow”	Preamble and does not require construction.

##### a) The Parties’ Positions

The parties dispute whether the preamble phrase “vertical wind tunnel amusement device” limits the claims. Plaintiff argues that the preamble limits the claims because: (1) the entirety of the patent reveals that the structure recited in the preamble is a part of the invention; (2) the preamble provides antecedent basis to other limitations in the body of the claim; and (3) the patentees used the preamble to distinguish prior art. (Dkt. No. 45 at 12.) Specifically, Plaintiff argues that simulating skydiving is the primary objective of the invention. (*Id.*) (citing

'028 Patent at 4:31–34, 1:36–57, 7:32–55, 8:35–37). Plaintiff contends that the invention accomplishes this objective by supporting a skydiver in an airflow within the wind tunnel. (*Id.*) (citing '028 Patent at Abstract, 8:30–32). According to Plaintiff, the “vertical wind tunnel amusement device” must support a person in an airflow, or else it would not accomplish the primary objective of the invention. (*Id.*)

Plaintiff further argues that the specification repeatedly underscores the invention as a “vertical wind tunnel amusement device.” (*Id.* at 13) (citing '028 Patent at Abstract, 1:17–19, 2:55–56, 2:37–51, 8:35–37). Plaintiff contends that it is evident that the inventors were working on the particular problem of designing a vertical wind tunnel “for general amusement purposes.” (*Id.* at 14) (citing '028 Patent at 1:45–46). Plaintiff further argues that the title of the patent, the Summary of the Invention, and the preferred embodiments make it clear that the invention is a “vertical wind tunnel amusement device.” (*Id.*)

Plaintiff also argues that the preamble is limiting because the body of claim 39 refers to “the wind tunnel” in two separate instances. (*Id.*) Plaintiff further contends that the inventors relied on the features recited in the preamble to distinguish the invention from prior art. (*Id.* at 15) (citing '028 Patent at 1:30–57, 2:37–51). Plaintiff argues that prior art wind tunnels lacked the features necessary for purposes of an amusement device. (*Id.*) (citing '028 Patent at 1:43–46).

Defendant responds that the term “vertical wind tunnel amusement device” describes a structure with an intended use. (Dkt. No. 55 at 9.) Defendant argues that preambles describing the use of an invention generally do not limit the claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure. (*Id.*) In other words, Defendant argues that the body of the claims stand alone in defining the

structural limitations of the “wind tunnel amusement device,” and the preamble serves no purpose other than to state a use for the vertical wind tunnel. (*Id.* at 12.) Defendant further contends that the preamble of claim 39 reads “[a] vertical wind tunnel device,” not “[a] vertical wind tunnel amusement device.” (*Id.*) According to Defendant, there is no claim that relies on the phrase “[a] vertical wind tunnel amusement device” for antecedent basis. (*Id.*) Defendant contends that the patentees made no arguments during prosecution of the ’028 Patent or the ’110 Patent to show the patentees’ intent to limit the claims by incorporating the preamble. (*Id.* at 14.) Defendant also argues that deletion of “amusement” from the preamble would have zero effect on the structure or use of the claimed invention. (*Id.*)

Defendant further argues that the phrase “vertical wind tunnel amusement device” is not used once in describing the preferred embodiment of the invention. (*Id.* at 10) (citing ’028 Patent at 5:19–12:3). Defendant contends that if “amusement device” was critical to understanding the full scope of the claims, the patentees would have used it at least once in its Description of the Preferred Embodiment. (*Id.*)

Defendant further argues that Plaintiff’s construction must be rejected because it would limit the claims to the preferred embodiment. (*Id.*) Defendant contends that when a patentee describes his invention using a description of its structure, the implication is that the claim will not be limited by reference to functions described in the specification. (*Id.* at 15.) Defendant argues that all of the claims of the ’028 Patent are apparatus claims and that it would be improper to incorporate functional limitations from the preferred embodiment into the claims. (*Id.*) Finally, Defendant argues that the declaration and deposition testimony of Plaintiff’s expert, Mr. Raymond Whipple, confirm that Plaintiff is trying to incorporate a functional limitation into the apparatus claims. (*Id.* at 15-16.)

Plaintiff replies that it is undisputed that the invention of the '028 Patent is a “vertical wind tunnel amusement device.” (Dkt. No. 59 at 4.) Plaintiff contends that what Defendant calls an “intended use” is in fact the essence of the invention. (*Id.*) According to Plaintiff, designing the vertical wind tunnel for skydiving is at the core of the invention, and other claim elements would not make sense in the context of a wind tunnel not designed for simulating skydiving. (*Id.*) Plaintiff notes, for example, that the specification is replete with references to skydiving, and that each and every embodiment is described as simulating skydiving. (*Id.*)

Plaintiff argues that not limiting the claims to this fundamental characteristic would lead to absurd results because the claims would be broadened to include wind tunnels which are incapable of simulating skydiving. (*Id.*) Plaintiff argues that Defendant seeks this result in order to include horizontal wind tunnels. (*Id.* at 5.) Plaintiff further points out that the phrase “vertical wind tunnel amusement device” is used to describe the preferred embodiment. (*Id.*) (citing '028 Patent at 8:17–19).

For the following reasons, the Court finds that the preamble limits the claims to “vertical wind tunnels,” but does not limit the claims to the intended use of an amusement device “for simulating skydiving by supporting a person in an airflow.”

### **b) Analysis**

The phrase “vertical wind tunnel amusement device” appears in claims 1, 2, 3, 12-16, 18, 19, 21, 22, 28-30, 43, and 44 of the '028 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the preamble is limiting when the phrase “vertical wind tunnel” appears in it. A review of the specification finds that the '028 Patent is directed only to vertical wind tunnels. *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir.

1989) (“The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.”).

For example, the Field of the Invention section states that “[t]he present invention relates to the field of vertical wind tunnels . . . .” ’028 Patent at 1:17–18. Likewise, the Summary of the Invention section states that “[t]he primary aspect of the present invention is to provide a vertical wind tunnel amusement device . . . .” *Id.* at 2:55–56. This section also repeatedly states that “[a]nother aspect of the present invention is to provide a vertical wind tunnel amusement device having . . . .” *Id.* at 2:59–3:13. The specification further states that “[t]he invention comprises a single pass, non-return flow vertical wind tunnel amusement device having a flight chamber. It is within the flight chamber where the user experiences ‘freefall’ within the vertical airflow column.” *Id.* at 3:17–21. Thus, a person of ordinary skill in the art would find that the only wind tunnels discussed are vertical wind tunnels. *See, e.g.*, ’028 Patent at 2:37–51, 8:35–37, Figures 1, 2, 18, and 19. Indeed, the title of the ’028 Patent is “Vertical Wind Tunnel Training Device.”

In addition, the phrase “[a] vertical wind tunnel device,” as recited in the preamble of claim 39, provides antecedent basis for the subsequent limitation of “an inlet contraction at a base of *the wind tunnel* . . . thereby preventing the door from opening outward when *the wind tunnel* is in operation.” *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) (stating that “[w]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.”). Moreover, the other claim elements (*e.g.*, “floor mesh”) seem only structurally applicable to vertical wind tunnels. Finally, the prior art devices discussed in the Background of the Invention section are all vertical wind tunnels. ’028 Patent at 1:36–57. Accordingly, the

Court finds that the preamble limits the claims to “vertical wind tunnels.”

Turning to Plaintiff’s construction, the Court disagrees that the preamble further limits the claims to the intended use of “for simulating skydiving by supporting a person in an airflow.” All of the claims in the ’028 Patent are apparatus claims. It is well established that the preambles for such claims generally are not limitations “because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure.” *Catalina Mktg. Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002). Here, in the context of a vertical wind tunnel, the body of the claim “sets out the complete invention.” *Schumer v. Lab. Computer Sys., Inc.*, 308 F.3d 1304, 1310 (Fed. Cir. 2002). The additional language proposed by Plaintiff is merely an intended use of the claimed vertical wind tunnel and should not be read into the claims as an additional limitation.

Moreover, the language of “for simulating skydiving by supporting a person in an airflow” does not appear in the preamble. Instead, the only words that appear in the preamble are “amusement device.” Contrary to Plaintiff’s contention, “amusement device” does not provide antecedent basis for any of the elements in the claims. Instead, as discussed above, it is the phrase “[a] vertical wind tunnel device” that appears in the preamble of claim 39 that provides antecedent basis for a subsequent limitation. Accordingly, the Court finds that the preamble phrase “amusement device” merely states an intended use of the invention and does not limit the scope of the claims. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006) (“Preamble language that merely states the purpose or intended use of an invention is generally not treated as limiting the scope of the claim.”).

Plaintiff argues that the patentees relied on the features recited in the preamble to distinguish the invention from prior art. (Dkt. No. 45 at 15) (citing ’028 Patent at 1:30–57). The

Court notes that Plaintiff's disclaimer argument is based on general statements included in the specification and not specific arguments made in the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) ("[T]he specification may reveal an intentional disclaimer, or disavowal, of claim scope by an inventor."). Notwithstanding, for a specification disclaimer to arise "the specification [has to] make[] clear that the invention does not include a particular feature . . ." *Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001).

The Court finds that the specification does not clearly state that the claims should be limited to an "amusement" device. At best, the specification generally criticizes the prior art for not being available to the public or for not being "user friendly." '028 Patent at 1:36–57. However, "[m]ere criticism of a particular embodiment encompassed in the plain meaning of a claim term is not sufficient to rise to the level of clear disavowal. . . . To constitute disclaimer, there must be a clear and unmistakable disclaimer." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366-1367 (Fed. Cir. 2012). Indeed, the specification states that prior art vertical wind tunnels "are available for use by persons for various types of atmospheric freefall training." '028 Patent at 1:39–40. Accordingly, the Court finds that the preamble does not limit the claims to the intended use of "for simulating skydiving by supporting a person in an airflow."

Plaintiff also argues that when a limitation refers to the "essence of the invention," it limits the scope of the claim, even if it appears in the preamble. (Dkt. No. 59 at 6) (citing *Vizio, Inc. v. Int'l Trade Comm'n*, 605 F.3d 1330, 1340-41 (Fed. Cir. 2010)). The Court agrees with this statement of law. However, unlike the preamble term in *Vizio*, the proposed limitation of "for simulating skydiving by supporting a person in an airflow" does not appear in the preamble or anywhere in the claims. Therefore the facts in this case are distinguishable from those in *Vizio*.

where the “for decoding” limitation appeared in the preamble of the claims, and was not added to the claims by a proposed construction. *Vizio*, 605 F.3d at 1340. As the Federal Circuit stated in *Vizio*, “[a] preamble is not limiting ‘where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.’” *Id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). Finally, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

### c) Court’s Construction

In light of the evidence submitted by the parties, the Court finds that the preamble limits the claims to “vertical wind tunnels,” but does not limit the claims to the intended use of an amusement device “for simulating skydiving by supporting a person in an airflow.”

## 2. “chamber for containing an airflow”

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendant’s Proposal</u>
“chamber for containing an airflow”	“area for simulated skydiving by one or more persons enclosed by walls wherein the high speed airflow extends from wall to wall”	Does not require construction, and therefore should be given its plain and ordinary meaning.

### a) The Parties’ Positions

The parties dispute whether the phrase “chamber for containing an airflow” requires construction. Plaintiff argues that its construction gives the phrase its plain and ordinary meaning as understood by a person of skill in the art in light of the intrinsic record. (Dkt. No. 45 at 16.) Plaintiff contends that the specification establishes that the invention comprises an enclosed chamber for simulated skydiving where the high-speed airflow column extends to the walls of the chamber. (*Id.*) (citing ’028 Patent at Abstract). Plaintiff further argues that for the airflow

velocity profile to be relatively flat, the airflow must extend to the walls of the chamber. (*Id.*) (citing '028 Patent at 3:42–44, 5:39–43, 6:36–37). According to Plaintiff, a constant airflow across the flight chamber would not be possible without having the airflow extend from wall-to-wall within the flight chamber. (*Id.* at 16–17.)

Plaintiff also contends that wind tunnels normally have a test section, that is, a portion of the wind tunnel where the airflow reaches its maximum velocity and where objects are placed in the airstream. (*Id.* at 17.) The area where people experience simulated skydiving forms the test section in a vertical wind tunnel amusement device. (*Id.* at 17.) Plaintiff argues that in view of the intrinsic evidence, one of skill in the art would understand a “chamber for containing an airflow” to refer to a wind tunnel with a closed test section. (*Id.*) According to Plaintiff, to have it otherwise would allow for a vertical wind tunnel having areas within the flight chamber where no airflow is present. (*Id.*) Plaintiff argues that would fail to provide the control, stability, and predictability that the invention of the '028 Patent provides. (*Id.*) (citing '028 Patent at 5:40–44, 2:55–58, 4:11–13, 6:67–7:2).

Defendant responds that the term “chamber for containing an airflow” is readily understood by one of ordinary skill in the art, and should be given its plain and ordinary meaning. (Dkt. No. 55 at 16.) Defendant argues that Plaintiff’s attempt to add the intended use of the wind tunnel is unnecessary. (*Id.*) Defendant further argues that the additional limitation “enclosed by walls wherein the high speed airflow extends from wall to wall” is not supported by the intrinsic evidence. (*Id.*) Defendant contends that the term “wall to wall” is not found anywhere in the specification. (*Id.*) Defendant further argues that the proposed limitation of “airflow extends from wall to wall” is technically incorrect and would only confuse the claim term. (*Id.* at 17.)

Defendant also contends that Plaintiff’s construction further includes an inaccurate

limitation for “high speed airflow.” (*Id.*) According to Defendant, vertical wind tunnels for spin testing and skydiving simulations are actually in the category of “low speed” tunnels. (*Id.*) Defendant argues that Plaintiff’s use of the word “high speed” only adds more confusion to the term and one not readily understood by one of ordinary skill in the art. (*Id.*)

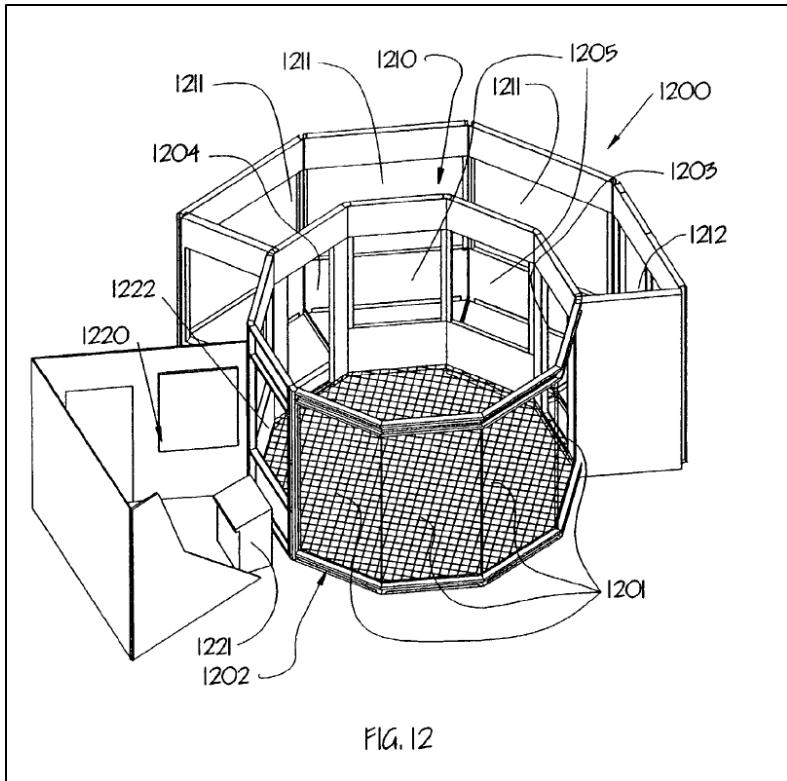
Plaintiff replies that the intrinsic and extrinsic evidence dictate that the chamber must be enclosed by walls. (Dkt. No. 59 at 7.) Plaintiff argues that Defendant’s contention that wall-to-wall airflow is “technically impossible” is belied by its own statement claiming that airflow in its tunnels permits “wall-to-wall” flying. (*Id.*) Plaintiff further argues that a person of skill would understand that airflow in a closed test section is wall-to-wall, despite boundary layers. (*Id.*) Plaintiff also contends that Defendant’s “boundary layer” arguments are extrinsic evidence, which cannot be used to contradict the wall-to-wall airflow taught by the intrinsic record. (*Id.*)

For the following reasons, the Court finds that the phrase **“chamber for containing an airflow”** should be construed to mean **“area enclosed by walls for containing an airflow.”**

### **b) Analysis**

The phrase “chamber for containing an airflow” appears in claims 1, 12, 17, 18-21, 24, 27, 28, 43, 44 of the ’028 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same general meaning in each claim.

The Court further finds that the intrinsic evidence indicates that the recited “chamber” is an area enclosed by walls. Specifically, the Abstract states that the present invention “comprises a flight chamber wherein a user may experience a freefall through the atmosphere from the safety of an *enclosed flight chamber.*” ’028 Patent at Abstract (emphasis added). Figure 12 provides an illustration of the preferred enclosed flight chamber 1200 that includes glass windows 1201 and 1205.



*Id.* at Figure 12. The specification states that “[t]he preferred embodiment of the flight chamber is shown with ten sides, although any number of sides, or round or elliptical sides will suffice.”

*Id.* at 7:20–22. The specification further states that “[e]ach wall of the flight chamber comprises windows constructed of transparent Plexiglas®, acrylic plastic, or similar high strength window material.” *Id.* at 3:45–48. Accordingly, the Court finds that the intrinsic records indicates that the recited “chamber” is an “area enclosed by walls.” Indeed, it is this enclosed area that allows for a constant airflow velocity “across the entire flight chamber.” *Id.* at 6:35–37.

In addition, the extrinsic evidence also indicates that a person of ordinary skill would understand that the recited “chamber” is an “area enclosed by walls.” Defendant’s expert stated that his understanding of the plain and ordinary meaning of the phrase “chamber containing an airflow” is “some sorts of walls that bound the airflow on its sides.” (Dkt. No. 59-3 at 8) (Sept. 2, 2015 Depo. of Dr. Werner Dahm at 157:3-22). Likewise, during the claim construction hearing,

Defendant stated that it agreed with the Court’s construction. Thus, the intrinsic and extrinsic evidence indicate that the recited “chamber” is an “area enclosed by walls.” However, the Court’s construction does not mean that the chamber has to be completely enclosed by walls. For example, the specification states the flight chamber has an entry opening and an exit opening to a staging area that is adjacent to it. ’028 Patent at 3:51–53.

Turning to Plaintiff’s construction, the Court finds that including the intended use of “for simulated skydiving by one or more persons” in the construction for “chamber” is unwarranted and unnecessary. As discussed above, the patentability of apparatus claims generally “depends on the claimed structure, not on the use or purpose of that structure.” *Catalina Marketing Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002). Here, the additional language proposed by Plaintiff serves no purpose other than to state an intended use for the chamber.

Regarding Plaintiff’s proposal of “wherein the high speed airflow extends from wall to wall,” the Court finds that this language should not be read into the disputed phrase. The Court agrees with Defendant that “high speed airflow” could be confusing given that vertical wind tunnels for spin testing and skydiving simulations are actually in the category of “low speed” tunnels. (Dkt. No. 55-2 at 8) (August 25, 2015 Depo. of Raymond Whipple at 63:2-21) (testifying that tunnels below 0.6 Mach are in the category of low speed tunnels). As Plaintiff’s expert testified, the term “high speed” is simply a “relative” term to signify that this is in the “higher” range of a “low speed tunnel.” *Id.* The Court finds that there is no reason to read this relative term into the claims.

Regarding Plaintiff’s “wall to wall” proposal, the Court is not persuaded by Defendant’s argument that wall-to-wall airflow is “technically impossible.” It is undisputed that there is a boundary layer, but as Plaintiff’s expert testified, the boundary layer is a very small dimension

and is in the range of a fraction of an inch. (Dkt. No. 55-2 at 11-12) (August 25, 2015 Depo. of Raymond Whipple at 66:16-21, 67:11-17). The specification states that the preferred diameter of the flight chamber is between 10 and 13 feet. '028 Patent at 5:49–50. Given the preferred diameter, a fraction of an inch would be insignificant for low-speed wind tunnels. Indeed, Defendant agreed at the claim construction hearing that the boundary layer drops off quickly.

Finally, during the claim construction hearing Plaintiff argued that the specification states that the airflow velocity is constant across the entire flight chamber. The Court finds that when the patentees intended to limit the claims to airflow extending from wall to wall, they did so explicitly. For example, claims 18, 19, and 43 recite “a chamber for containing an airflow, said chamber having a width and said airflow being substantially constant across the width of the chamber.” In contrast, claims 1, 12, 20, 21, 28, and 44 only recite “a chamber for containing an airflow.” Accordingly, the Court finds that Plaintiff’s “wall to wall” proposal should not be read into every claim. Finally, the Court has considered the remaining extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

### c) Court’s Construction

In light of the evidence submitted by the parties, the Court construes the phrase **“chamber for containing an airflow”** to mean **“area enclosed by walls for containing an airflow.”**

### 3. “staging area”

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendant’s Proposal</u>
“staging area”	“enclosed area which allows persons to enter and/or exit the chamber without significantly adjusting the airflow velocity therein”	“an area where a person can access the chamber”

### **a) The Parties' Positions**

The parties generally agree that the staging area allows users to access the chamber. Plaintiff argues that the specification and file history clearly describe the “staging area” as an “enclosed” area that allows multiple users to enter and exit the chamber without having to shut off the fans. (Dkt. No. 45 at 18-19) (citing ’028 Patent at 7:40–55; Dkt. No. 45-2 at 5 (March 16, 2010 Office Action Response)). Plaintiff contends that the Abstract makes clear that “a user may enter or retreat from the flight chamber at will through the staging area openings without significantly adjusting the airflow velocity in the flight chamber.” (*Id.* at 18.) Plaintiff further argues that Defendant’s construction ignores the disclaimer in the prosecution history and broadens the term to encompass unenclosed areas. (*Id.* at 18-19.)

Defendant responds that adding the word “enclosed” is superfluous. (Dkt. No. 55 at 18.) Defendant contends that the claim recites “a staging area forming an outer chamber adjacent to said chamber,” and thus already includes the concept of a bounded space. (*Id.* at 18.) Defendant further argues that the word “enclosed” is never used in the specification to describe the staging area. (*Id.*) Defendant also argues that the term “enclosed” is inaccurate because the staging area has an opening that leads into the staging area from the outside, and at least one or two additional openings that lead into the flight chamber. (*Id.*) (citing ’028 Patent at 7:24–27). According to Defendant, any time the door to the staging area is open, the staging area is not enclosed. (*Id.*) Regarding the prosecution history, Defendant argues that the claims at issue were cancelled and the issue was not decided. (*Id.*)

Regarding Plaintiff’s proposal of “without significantly adjusting the airflow velocity therein,” Defendant argues that this functional limitation comes from the Abstract to explain a general goal and is not described in the rest of the specification. (*Id.*) Defendant contends that “significantly adjusting” only creates more confusion because it is not clear what constitutes

significantly adjusting. (*Id.* at 18-19.) Defendant further argues that Plaintiff's construction is further contradicted by the specification because the patentees contemplated that adjustments may be necessary to stabilize the user. (*Id.* at 19) ('028 Patent at 8:27-28).

Plaintiff replies that the patentees disclaimed the broad interpretation that Defendant seeks and clarified that the "staging area" is an "enclosed" area that connects to the flight chamber. (Dkt. No. 59 at 8.) Plaintiff also argues that Defendant's expert acknowledges that the staging area must allow persons to enter and exit the chamber. (*Id.*) Plaintiff further argues that Defendant's construction is contradicted by the intrinsic record. (*Id.*)

For the following reasons, the Court finds that the term "**staging area**" should be construed to mean "**enclosed area that has an opening that allows a person to enter and/or exit the chamber.**"

### **b) Analysis**

The term "staging area" appears in claims 1, 12, 14, 15, 17-21, 24-29, 32, 39, 43, and 44 of the '028 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the intrinsic evidence indicates that the recited "staging area" is an "enclosed area that has an opening that allows a person to enter and/or exit the chamber." During prosecution of the '028 Patent, the patentees distinguished prior art by arguing that the "staging area" of the invention is an "enclosed chamber," and not simply an area that allows access to the flight chamber. Specifically, the patentees argued that "[a] close reading of Consolini makes it clear that there is no staging area that is an outer chamber. The staging area of Consolini is a platform, not an enclosed chamber . . ." (Dkt. No. 45-2 at 5) (March 16, 2010 Office Action Response). The Court finds that the patentees' clearly and unmistakably limited the recited "staging area" to an

enclosed area, and not simply a passage or platform that allows “access” to the flight chamber, as Defendant proposes.

In addressing the prosecution disclaimer, Defendant responds that the claims at issue were cancelled and the issue was not decided. (Dkt. No. 55 at 18.) Defendant points to no authority that suggests that prosecution arguments cannot be considered if they are made in the context of claims that did not issue. Indeed, in this instance, the opposite would be true because “by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover.” *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed. Cir. 1997). Here, the “staging area” limitation appears in issued claims and the patentees’ statement is equally informative for all claims that require the recited “staging area.”

Regarding the remaining portion of the Court’s construction, the parties generally agree that the staging area allows users to access the chamber. The parties dispute exactly how that should be included in the construction. The Court finds that the recited area has an opening that allows a person to enter and/or exit the chamber. For example, the specification describes the staging area as an enclosed area that houses multiple waiting flyers and permits them to enter/exit the flight chamber through an opening. ’028 Patent at 7:40–55; *see also id.* at 3:51–53 (“The flight chamber has an entry opening and exit opening to the staging area through which a user may enter and exit the flight chamber.”); 10:25–26 (“A user enters the flight chamber 1200 through openings 1203 or 1204.”).

During the claim construction hearing, Defendant argued that the Court’s construction was incorrect because requiring the staging area to be “enclosed” would exclude accessing the staging area itself. To be clear, the Court’s construction does not address accessing the staging area itself. Furthermore, the Court’s construction does not exclude the staging area from having a

door or other opening that provides access to the staging area. Indeed, the specification states that the user enters the staging area through a door. *Id.* at 7:26–27, 10:27–28. As discussed above, the Court’s construction is based on the patentees’ statement that the recited “staging area” is an enclosed area where a user can wait before entering the flight chamber. *Id.* at 3:53–54.

Turning to Plaintiff’s construction, Plaintiff requires the “staging area” to further include allowing a person to enter and/or exit the chamber “without significantly adjusting the airflow velocity therein.” The Court finds that this additional language is unnecessary and unwarranted. Plaintiff cites to the Abstract for support for this language, but there is no indication in the intrinsic record how “significantly adjusting” would be interpreted. In fact, the specification states that “[i]f adjustment is necessary to stabilize a user, an operator in control room 371 adjusts the operation of the fans . . . to increase or decrease the velocity of airflow.” ’028 Patent at 8:27–28. This indicates that the patentees understood that adjustments may be necessary to stabilize a user. Therefore, it would be potentially confusing to read into the claim a “non-adjustment” limitation. Moreover, Plaintiff agreed with the Court’s construction during the claim construction hearing. Accordingly, the Court rejects this portion of Plaintiff’s construction. Finally, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

### c) Court’s Construction

In light of the evidence submitted by the parties, the Court construes the term **“staging area”** to mean **“enclosed area that has an opening that allows a person to enter and/or exit the chamber.”**

#### **4. “a fan whereby an airflow is induced”**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendant’s Proposal</u>
“a fan whereby an airflow is induced”	No construction is needed. This phrase should be given its plain and ordinary meaning.	“a fan situated on top of the chamber that pulls airflow up through the chamber”

##### **a) The Parties’ Positions**

The parties dispute whether the phrase “a fan whereby an airflow is induced” requires construction. Plaintiff argues that the phrase is a simple one that a person of ordinary skill would readily understand to mean what it says. (Dkt. No. 45 at 20.) Plaintiff contends that there is nothing in the ordinary meaning of the term “a fan whereby an airflow is induced” that limits the location of the fan. (*Id.* at 21.) Plaintiff further argues that there is nothing in the specification or the prosecution history that limits the configuration of the vertical wind tunnel to one where the fan is situated on top of the flight chamber. (*Id.*) According to Plaintiff, the fan simply has to induce airflow through the flight chamber so that a skydiver can be fully supported in the air column. (*Id.*) (citing ’028 Patent at Abstract).

Plaintiff further argues that Defendant’s construction is also incorrect because it violates the principles of claim differentiation. (*Id.*) Plaintiff contends that it is dependent claim 4 (dependent on claim 1) that requires the fan to be on “top of the chamber.” (*Id.* at 21-22.) Plaintiff argues that Defendant’s construction eliminates any differences between claims 1 and 4 and reads the limitation of claim 4 into claim 1. (*Id.* at 22.) Plaintiff also argues that Defendant’s construction renders the phrase “mounted on top of the chamber” superfluous in claims 20, 18, 19, and 43. (*Id.*) According to Plaintiff, Defendant’s construction fails to give meaning to all terms in the claim. (*Id.*)

Finally, Plaintiff argues that Defendant’s construction excludes the preferred embodiment from the scope of the claims. (*Id.*) Plaintiff contends that the preferred embodiment describes the

fans being placed at a location above the flight chamber, not “on top” of the flight chamber. (*Id.*) (citing ’028 Patent at 3:21–23, 4:13–18, 5:25–30, 7:2–3). Plaintiff further contends that the specification never suggests that the fans must be directly “on top of” the flight chamber. (*Id.* at 23.) Plaintiff also argues that Figure 2 of the ’028 Patent shows fans (270 and 280) situated above the flight chamber (110), not situated on “top of the chamber.” (*Id.*)

Defendant responds that the inventors had in mind a very specific orientation for the location of the fan to achieve their goal of “improved airflow control and stability.” (Dkt. No. 55 at 19–20) (citing ’028 Patent at 2:57–58, 3:18–19, 2:38–40, 4:15–18, 5:28–31, 5:61–67, 6:13–15, 6:44–47, 7:2–3, 8:38–40, 11:18–21). Defendant argues that Plaintiff concedes that the only orientation contemplated by the inventor was placing the fans radially above the vertical axis and above the chamber. (*Id.* at 20.) Defendant further argues that in the CIP Application, the patentees added a return duct in new claims, but did not change anything else about the structure or orientation of the wind tunnel, including the location of the fans. (*Id.*)

Defendant further argues that identifying the location of the fan(s) on top of the chamber is necessary to make sense of the claims. (*Id.* at 21) (citing ’028 Patent at Claims 1, 3, 19 and 30). According to Defendant, to make sense of the inlet contraction being “at a bottom end opposite said fan,” the fan must be located at the top end of the chamber opposite said inlet contraction, otherwise claims 1, 2, and 3 would be completely nonsensical. (*Id.*) Defendant further argues that identifying the fan as being on top of the chamber is the only way to make sense of the claims when they are read together. (*Id.*) Defendant contends that in the sequence set forth by claims 1, 2, 3, and 5, the components are put together in a way such that the fan must always be on top of the chamber. (*Id.*)

Defendant also argues that in overcoming a Patent Office rejection over prior art, the

patentees differentiated their invention by arguing that the fans of the instant invention are situated above the flight chamber. (*Id.* at 22) (citing Dkt. No. 55-3 at 12) (May 28, 1999 Preliminary Amendment). Defendant contends that by explicitly stating that the fans must be above the flight chamber, the patentees made a clear disclaimer regarding the scope of the invention to obtain claim allowance. (*Id.*) Defendant argues that its construction captures the precise scope set forth by the patentees and excludes what they disclaimed during prosecution. (*Id.*)

Regarding Plaintiff's claim differentiation argument, Defendant argues that Plaintiff fails to recognize that the claimed dependency is based on the number of fans. (*Id.*) Defendant contends that claim 1 provides for "a fan" (one or more), while claim 4 provides for "a plurality" of fans (two or more). (*Id.*) Defendant further argues that even if there was some concern regarding claim differentiation, "prosecution history disclaimer can overcome the presumption of claim differentiation." (*Id.* at 23) (citing *Biogen Idec. Inc. v Glaxosmithkline*, 713 F.3d 1090, 1097 (Fed. Cir. 2013)).

Plaintiff replies that the purported "disclaimer" Defendant relies on never states that the fans must be "on top" of the flight chamber. (Dkt. No. 59 at 8-9.) Plaintiff further contends that in the preferred embodiment, the fan is not directly "on top" of the flight chamber, it is simply above the flight chamber. (*Id.* at 9.) Plaintiff argues that Defendant provides no intrinsic or extrinsic support to show that "above" necessarily means "on top of." (*Id.*) According to Plaintiff, the specification makes clear that "above" simply means "downstream" of the flight chamber, and requires the flight chamber to be on the "inlet side of the fans." (*Id.*) (citing '028 Patent at 3:21–23, 2:55–58). Plaintiff argues that the specification never states that the fans must be "on top" of the flight chamber. (*Id.*)

Plaintiff also argues that claims 1, 2, and 3 do not require the fan location to be “on top” of the chamber. (*Id.*) Plaintiff contends that if the fan is at an “opposite” end from the inlet contraction, it can be “arranged radially” around the top end of the flight chamber as described in the specification or in any number of other possible configurations, without necessarily being directly “on top” of the flight chamber. (*Id.*) According to Plaintiff, Defendant’s construction would read the preferred embodiment out of the claims. (*Id.* at 10.)

For the following reasons, the Court finds that the phrase **“a fan whereby an airflow is induced”** should be construed to mean **“a fan located above the chamber that induces an airflow.”**

#### **b) Analysis**

The phrase “a fan whereby an airflow is induced” appears in claims 1, 12, 17, 20, 21, 24, 27, 28, and 44 of the ’028 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same general meaning in each claim.

The Court finds that the intrinsic evidence indicates that the recited “fan” must be located “above the chamber.” During prosecution of the ’028 Patent, the patentees distinguished prior art by arguing that “the instant invention creates a uniform airflow profile because *the fans are above the flight chamber.*” (Dkt. No. 45-3 at 12) (May 28, 1999 Preliminary Amendment) (emphasis added). The Court finds that this is a clear and unmistakable disclaimer regarding the scope of the claims. *Southwall Techs. Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995) (“The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.”). Accordingly, the Court finds that the patentees limited the claim to embodiments where the fans are located above the flight chamber.

Turning to Defendant’s construction, the Court finds that it is not consistent with the

intrinsic evidence. As discussed above, the patentees argued that the fans must be above the flight chamber. Fans located “above” the flight chamber include fans located “on top” of the chamber, but located “above” is not limited to located “on top.” For example, the specification describes embodiments that have the fans located “above” the flight chamber, but not necessarily located “on top” of the flight chamber. ’028 Patent at 3:21–23 (“Airflow is induced through the flight chamber by a plurality of fans located above, i.e. downstream of, the flight chamber.”), 4:13–18 (“[A]bove the perforated section is a divergent diffuser.... [and] above the divergent diffuser are the fan inlets and the fans.”). Likewise, Figure 2 illustrates fans (270 and 280) situated above and offset to the side of the flight chamber (110), but not literally “on top” of the flight chamber.

The Court also finds that Defendant’s construction is inconsistent with the doctrine of claim differentiation and would render the phrase “mounted on top of the chamber” superfluous in the dependent claims. For example, independent claim 1 recites “a fan whereby an airflow is induced,” but does not recite that the fan must be mounted on “top of the chamber.” Instead, it is dependent claim 4 that recites that a plurality of fans are “mounted on top of the chamber.” Independent claim 28 and dependent claim 31 also include these respective limitations. Under the doctrine of claim differentiation, different claims are presumed to have different scope and a dependent claim’s limitations are not to be read into the independent claim from which it depends. *Phillips*, 415 F.3d at 1314-15 (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”). Here, the Court finds that Defendant’s construction would read the limitation of dependent claim 4 into independent claim 1, and the limitation of dependent claim 31 into independent claim 28.

Moreover, independent claim 20 recites “a plurality of fans mounted on top of the chamber for inducing an airflow upwards through the chamber.” Thus, the claim language indicates that when the patentees intended to limit the claims to fans mounted on top of the chamber, they did so explicitly. Indeed, the specification indicates that the patentees intended “above” to mean a structure where the fans are located “downstream” of the flight chamber. ’028 Patent at 3:21–23 (“Airflow is induced through the flight chamber by a plurality of fans located above, i.e. downstream of, the flight chamber.”). In other words, a person of ordinary skill in the art would understand from the specification and the prosecution history that the fans may be located at several possible locations relative to the flight chambers as long as they are “above” and “downstream” from the chamber. Accordingly, the Court does not adopt Defendant’s construction.

Defendant also argues that the components set forth in claims 1, 2, 3, and 5 are put together in a way such that the fan must always be on top of the chamber. (Dkt. No. 55 at 21.) The Court disagrees. For example, the limitations in claim 1 will impact the scope of claims 2 and 3, but the limitations in claims 2 and 3 generally do not impact the scope of claim 1. Here, Claim 1 recites the “fan communicating with said chamber by a duct.” Claim 2 further recites that the “duct has a diverging taper from said chamber to said fan.” Claim 3 recites “an inlet contraction connected to said chamber at a bottom end opposite said fan.” Claim 5 recites “a return air duct having a first end connected to an outlet of said fan; a plenum aerodynamically communicating with said inlet contraction; and a second end of said return air duct connected to said plenum.”

Thus, the relationship between claim 1 and claim 3 is as follows: the “fan” must be “above” the chamber in claim 1, but must be “above” the chamber and “opposite said fan” in

claim 3. Therefore, absent other limitations, when read together, claims 1, 2, 3, and 5 just require the fan to be located above the chamber (*i.e.*, opposite the end of the chamber connected to the inlet contraction). As long as the fan is located above the chamber, claims 1, 2, 3, and 5 provide other limitations which describe the arrangement of the remaining elements. The Court agrees that if the fan is located below the chamber, then the recited arrangement does not make sense. Finally, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

**c) Court’s Construction**

In light of the evidence submitted by the parties, the Court construes the phrase “**a fan whereby an airflow is induced**” to mean “**a fan located above the chamber that induces an airflow.**”

**5. “aerodynamically communicating”**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendant’s Proposal</u>
“aerodynamically communicating”	“connecting in a manner that minimizes the introduction of turbulence”	Term is indefinite. To the extent this terms is not indefinite, this term should mean “directly joining or connecting one area or space to another area or space.”

**a) The Parties’ Positions**

Defendant contends that the term “aerodynamically communicating” is indefinite because it has no plain and ordinary meaning to those skilled in the art. (*Id.* at 24.) Defendant argues that the specification fails to define the term at all, let alone clearly such that a person of ordinary skill reading the patent would understand with reasonable certainty what it means. (*Id.*) Defendant also argues that the inconsistent use of the term within the claims and the prosecution history demonstrates that the inventor was either uncertain or intentionally ambiguous with

regard to its meaning. (*Id.*)

According to Defendant, the patentees drew a distinction between “communicating” and “aerodynamically communicating” in the claims. (*Id.* at 25.) Defendant also argues that the patentees drew a distinction between air flowing between the staging area and the chamber, i.e., “aerodynamically communicating,” and the air flowing between the fan and the chamber, i.e., “communicating,” in the same claims. (*Id.*) Defendant further argues that Plaintiff’s expert did not understand the distinction between “aerodynamically communicating” and “communicating.” (*Id.* at 25-27.) Defendant also contends that the file history provides no assistance. (*Id.* at 27.) According to Defendant, the inconsistent and indiscriminate use of the two terms in the claims and prosecution history precludes one of ordinary skill in the art from defining the term “aerodynamically communicating” with reasonable certainty. (*Id.* at 27-29.)

In the alternative, Defendant argues that if the Court construes the term “aerodynamically communicating,” it should be construed to mean “directly joining or connecting on area or space to another area or space.” (*Id.* at 29.) Defendant contends that Plaintiff’s assertions regarding this term are completely at odds with how a person of ordinary skill in the art would understand the term. (*Id.*) Defendant argues that Plaintiff agrees that “aerodynamic communication” refers to connecting or joining two areas. (*Id.* at 30.) Defendant contends that Plaintiff’s attempt to distinguish between “directly” communicating and presumably “indirect” means of connecting or joining two areas is misplaced. (*Id.*) Defendant argues that it does not matter if there are other elements between those spaces, so long as they do not interrupt a continuous path through air connecting the two spaces. (*Id.*)

Defendant also argues that contrary to Plaintiff’s suggestion, claims 28 and 43 claim a plenum directly joining with a chamber. (*Id.* at 31.) Defendant further argues that Plaintiff makes

the same misleading arguments for claims 8 and 36. (*Id.*) Defendant contends that claims 8 and 36 actually claim a return duct directly joining with a fan, consistent with its construction. (*Id.*) Defendant further contends that following Plaintiff's logic, everything in a recirculating wind tunnel would theoretically be connected in some way. (*Id.* at 32.)

Plaintiff responds that a person of ordinary skill in the art would understand the term "aerodynamically communicating with" to have its plain and ordinary meaning, which is "connecting in a manner that minimizes the introduction of turbulence." (Dkt. No. 45 at 25.) Plaintiff contends that an "aerodynamic" design is one that reduces or eliminates any turbulence. (*Id.*) (citing '028 Patent at 3:35–38, 6:55–58, 3:35–38, 5:33–43, 6:53–61).

Regarding Defendant's construction, Plaintiff argues that it is incorrect because: (1) it inserts an extraneous spatial limitation; (2) it excludes an embodiment from the scope of the claims; and (3) it ignores the express teachings of the specification. (*Id.* at 25–26.) Plaintiff contends that Defendant attempts to limit the term to only "direct" connections or joints. (*Id.* at 26.) According to Plaintiff, the intrinsic record describes several examples of aerodynamic connection where the two areas are not directly connected to each other. (*Id.*) (citing '028 Patent, 5:65–6:3, Figures 18-19). Plaintiff further argues that the plain language of the claims indicates that a "direct" connection is not required. (*Id.*) Plaintiff argues that the embodiments described in Figures 18 and 19 disclose plenum (1810) indirectly connecting to the flight chamber (240) via the inlet contraction (100). (*Id.*) (citing '028 Patent at 11:17–21, Figures 18-19). Plaintiff contends that Defendant's construction that requires a direct connection excludes this embodiment from the scope of claims 28 and 43. (*Id.*)

Plaintiff also argues that the description of the embodiment in Figure 18 discloses the connection between the fan and a return air duct as an indirect connection, when the fans (270

and 280) connect to a fan exit duct (1840) and the fan exit duct is then connected to the return air ducts (1800). (*Id.* at 27) (citing '028 Patent at 11:9–41). Plaintiff argues that nothing in the specification requires the fans to be “directly” connected to the return air duct and that Defendant’s construction would exclude this embodiment from the scope of the claims. (*Id.*) Plaintiff further argues that the specification’s use of the term “aerodynamically” shows that a purely direct connection is not required. (*Id.* at 28) (citing '028 Patent at 5:65–67). Plaintiff contends that aerodynamic communication can be accomplished by indirectly connecting two or more spaces. (*Id.*)

Finally, Plaintiff argues that Defendant’s expert admits that the term “aerodynamically communicating” means “simply areas or spaces that are connected or directly joined to other areas or space.” (Dkt. No. 59 at 11) (citing Dkt. 55-9 at 12). According to Plaintiff, Defendant’s expert’s construction allows for two areas or spaces to “aerodynamically communicate” if they are either “connected” or “directly joined” to each other. (*Id.* at 12.) Plaintiff argues that Defendant expert’s declaration reveals that nothing in the meaning of this term requires a “direct connection.” (*Id.*)

For the following reasons, the Court finds that the term **“aerodynamically communicating”** should be construed to mean **“connecting in a manner that provides a continuous airflow path.”**

#### **b) Analysis**

The term “aerodynamically communicating” appears in claims 1, 5, 8, 12, 17-21, 24, 27-29, 36, 43, and 44 of the '028 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the disputed term, when read in light of the specification and the prosecution history,

informs, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Moreover, the Court finds that the term “aerodynamically communicating” should be construed to mean “connecting in a manner that provides a continuous airflow path.”

In describing the communication between the fans and the flight chamber, the specification states the following:

The diffuser brings the airflow to the proper velocity to match the fan requirement. Further, the slowed airflow is no longer capable of supporting a user. Consequently, the invention has a “fail-safe” feature which prevents a user from approaching or being drawn into the fans. The slowed airflow also reduces the frictional losses in the flowpath, resulting in reduced fan size. Further, the diffuser serves as a means of *aerodynamically connecting* the fans to the flight chamber since the fans have a larger overall diameter than the flight chamber. Transition section 130 divides the airflow path from a single path in diffuser 120 to five airflow paths, resulting in a dedicated airflow path to each fan inlet.

’028 Patent at 5:63–65 (emphasis added). Here, the specification describes the diffuser aerodynamically communicating with the flight chamber via an airflow path. Similarly in describing the communication between the inlet contraction and the flight chamber the specification states the following:

The flow path through the invention begins at the inlet contraction. Ambient air is drawn into the inlet contraction starting with essentially zero velocity. The inlet contraction is *aerodynamically designed* to allow the incoming airflow to be accelerated to the optimum velocity with as little turbulence as possible. The airflow then passes through a floor mesh into the flight chamber. The floor mesh provides support for the users when the airflow through the flight chamber is not sufficient to support them.

’028 Patent at 3:33–41(emphasis added). Again, the specification describes the inlet contraction aerodynamically communicating with the flight chamber via an airflow path. Thus, a person of ordinary skill in the art would understand the term “aerodynamically communicating” means “connecting in a manner that provides a continuous airflow path.”

The parties appear to agree that “aerodynamically communicating” means connecting in

a manner that provides a continuous path through air. Defendant argues in its brief that “[b]ut so long as there is a continuous path through air connecting any two spaces . . . those spaces must be said to ‘aerodynamically communicate’ with each other.” (Dkt. No. 55 at 30) (citing Dkt. No. 55-9 at 12-13) (Declaration of Dr. Werner Dahm at ¶¶ 44-45). Likewise, Plaintiff argues in the alternative that the term “aerodynamically communicating” should be construed to mean “connecting in a manner that provides a continuous path through air.” (Dkt. No. 59 at 12 n.21.) As discussed above, the Court finds that the intrinsic evidence is consistent with the parties’ arguments.

Regarding Defendant’s indefiniteness argument, the Court finds that the terms “communicating,” “aerodynamically communicating,” and “in fluid communication” are used interchangeably. The claims use these terms to describe parts of the device that are connected in a manner that provides a continuous airflow path. For example, claim 1 recites that the “fan *communicating* with said chamber by a duct” and that the “staging area *aerodynamically communicating* with said chamber.” ’028 Patent at claim 1 (emphasis added). Similarly, claim 39 recites that the “staging area in *fluid communication* with the flight chamber.” ’028 Patent at claim 39 (emphasis added). In each of these claims, the terms “communicating,” “aerodynamically communicating,” and “in fluid communication” are used to indicate that parts of the device are connected in a manner that provides a continuous airflow path. Contrary to Defendant’s contention, the claims and the intrinsic evidence indicate that these terms are used interchangeably.

Indeed, claim 1 recites the “fan *communicating* with said chamber by a duct,” and the specification describes the same communication as “*aerodynamically connecting* the fans to the flight chamber” ’028 Patent at 5:65–66 (emphasis added). Defendant does not contend that the

term “communicating” is indefinite. Instead, Defendant argues that the term “communicating” must have a different meaning from “aerodynamically communicating,” and therefore the term “aerodynamically communicating” is indefinite. Contrary to Defendant’s argument, there is no requirement that different terms must have different meanings. Instead, the Federal Circuit has stated that “[a] claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.” *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005). Here, the Court is giving meaning to all of the claim terms by construing the term “aerodynamically communicating” as it would be understood by a person of ordinary skill in the art.

The Court understands that there is a presumption that different terms have different meaning, but that presumption has been overcome in this case. *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”). As discussed above, the intrinsic evidence indicates that the terms “communicating,” “aerodynamically communicating,” and “in fluid communication” are used interchangeably. Indeed, Defendant’s expert opined that “[b]ut so long as there is a continuous path through air connecting any two spaces—as there must be for the wind tunnel claimed in the ’028 Patent to operate—those spaces can be said to ‘aerodynamically communicate’ with each other.” (citing Dkt. No 55-9 at 12) (Declaration of Dr. Werner Dahm at ¶ 44). Accordingly, the Court finds that Defendant has failed to prove by clear and convincing evidence that the term is indefinite. Finally, the Court has considered the remaining extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

### c) Court's Construction

In light of the evidence submitted by the parties, the Court construes the term “**aerodynamically communicating**” to mean “**connecting in a manner that provides a continuous airflow path.**”

#### 6. “said chamber having a width”

<u>Disputed Term</u>	<u>Plaintiff's Proposal</u>	<u>Defendant's Proposal</u>
“ <b>said chamber having a width</b> ”	No construction is needed. This phrase should be given its plain and ordinary meaning.	Term is indefinite. To the extent this terms is not indefinite, this term should mean “ <b>said chamber having a constant width/diameter.</b> ”

##### a) The Parties' Positions

Defendant contends that the phrase “**said chamber having a width**” is indefinite. (Dkt. No. 55 at 33.) Defendant argues that width signifies a particular measurement of something, and there is no guidance as to what that measure is. (*Id.*) According to Defendant, a person of ordinary skill in the art reading this statement would have no clear understanding what “width” or range of widths the inventor sought to patent by these claims. (*Id.*) Defendant further argues that the specification describes chambers having a number of sides or being elliptical. (*Id.*) (citing ’028 Patent at 7:20–22). Defendant contends that such chambers would necessarily have multiple widths, thus it would be impossible to ascribe a single width to such chambers. (*Id.*) Defendant further argues that Plaintiff could not explain why it was added to overcome prior art and failed to explain what it means. (*Id.*)

Plaintiff responds that a person of ordinary skill in the art would understand that the phrase “**said chamber having a width**” refers to the width as measured at a horizontal cross-section of the flight chamber. (Dkt. No. 45 at 28.) Plaintiff contends that the plain and ordinary meaning of the term “**said chamber having a width**” means that the chamber has a width. (*Id.*)

Plaintiff argues that inserting the word “constant” in the claim term finds no basis in the intrinsic record. (*Id.* at 29) Plaintiff contends that the term simply refers to a flight chamber having a width. (*Id.*)

Plaintiff further argues that it is axiomatic that three dimensional structures have a height, width, and depth; and that having a width is simply an inherent characteristic of a three-dimensional flight chamber. (Dkt. No. 45 at 29.) Plaintiff contends that several embodiments disclose flight chambers having variable widths. (*Id.* at 29-30) (citing ’028 Patent at Figures 3, 12, 15-17). Plaintiff further notes that the flight chamber of the preferred embodiment is described as a decahedron, not circular. (*Id.* at 30) (citing at ’028 Patent at 7:20–22). According to Plaintiff, it would be apparent to a lay person that a decahedron has a different width between its flat edges compared to the width between its pointed edges. (*Id.*)

Plaintiff further argues that Defendant excludes the embodiments described in Figures 3, 12, and 15-17 from the scope of the claims by requiring the width to be “constant.” (*Id.*) Plaintiff contends that Defendant cannot point to a single disclaimer that excludes these embodiments from the scope of the claims. (*Id.*) Plaintiff further argues that Defendant’s construction is contradicted by the intrinsic record. (*Id.* at 31.) Finally, Plaintiff argues that Defendant ignores the plain meaning and seeks absolute precision and a “quantifiable measurement” for what the width ought to be. (Dkt. No. 59 at 12-13.) According to Plaintiff, that is not the standard by which indefiniteness is gauged. (*Id.* at 13.)

For the following reasons, the Court finds that the phrase **“said chamber having a width”** is not indefinite and should be given its plain and ordinary meaning.

**b) Analysis**

The phrase “said chamber having a width” appears in claims 18, 19, and 43 of the ’028

Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the disputed phrase, when read in light of the specification delineating the patent and the prosecution history, informs, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Moreover, the Court finds that the phrase does not require construction because it is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning.

A person of ordinary skill in the art would understand the phrase “said chamber having a width” is referring to the width as measured at a horizontal cross-section of the flight chamber. In other words, the plain and ordinary meaning of the phrase “said chamber having a width” is exactly what it plainly states, the chamber has a width. Having a width is an inherent characteristic of a three-dimensional flight chamber. There is nothing unclear or ambiguous about this phrase. Moreover, the specification provides examples of the possible widths for the chamber. ’028 Patent at 5:49–51 (“The preferred diameter range of the flight chamber is between 10 and 13 feet, although any diameter may be used assuming the proper size and number of fans are used.”); 3:41–42 (“The flight chamber is approximately 12 feet in diameter.”). The phrase is in the claim apparently to provide an antecedent basis for the next phrase “and said airflow being substantially constant across the width of the chamber” ’028 patent at 13:52–54. That is a common claim-drafting protocol and does not cause the claim to be indefinite.

In the alternative, Defendant argues that phrase should be construed to mean “said chamber having a constant width/diameter.” The Court finds that Defendant’s construction is unwarranted and would exclude a preferred embodiment. *Rambus Inc. v. Rea*, 731 F.3d 1248, 1253 (Fed. Cir. 2013) (“A claim construction that excludes the preferred embodiment ‘is rarely,

if ever, correct and would require highly persuasive evidentiary support.””) (quoting *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010)).

Specifically, the flight chamber of the preferred embodiment is described as a decahedron, not circular. ’028 Patent at 7:20–22 (“The preferred embodiment of the flight chamber is shown with ten sides . . .”). Unlike a circle, a decahedron has a different width between its flat edges compared to the width between its pointed edges. Defendant’s construction would exclude this embodiment from the scope of the claims by requiring the width to be “constant.” Accordingly, the Court rejects Defendant’s construction. Finally, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

### c) Court’s Construction

In light of the evidence submitted by the parties, the phrase “**said chamber having a width**” will be given its plain and ordinary meaning.

#### 7. “**said airflow being substantially constant across the width of the chamber**”

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendant’s Proposal</u>
“ <b>said airflow being substantially constant across the width of the chamber</b> ”	“the airflow velocity is substantially uniform across the width of the chamber”	Term is indefinite.

### a) The Parties’ Positions

Defendant contends that the phrase “said airflow being substantially constant across the width of the chamber” is indefinite. (Dkt. No. 55 at 34.) Defendant argues that a person of ordinary skill would not understand how airflow can be substantially constant across the entire width of the chamber in light of the boundary layer effects. (*Id.*) Defendant contends that both experts acknowledge that there is a boundary layer effect whereby the friction between the airflow and the wall causes airflow to slow. (*Id.*) According to Defendant, this phrase is

technically impossible to achieve, and therefore the corresponding claims are indefinite. (*Id.*)

Plaintiff responds that a person of ordinary skill in the art would understand the phrase “said airflow being substantially constant across the width of the chamber” to have its plain and ordinary meaning of “the airflow velocity is substantially uniform across the width of the chamber.” (Dkt. No. 45 at 31.) Plaintiff argues that the specification describes the flight chamber as having “a relatively flat airflow velocity profile across [its] width.” (*Id.*) ('028 Patent at 5:35–40). Plaintiff contends that during the prosecution of the '110 Patent, the applicants termed this as a “uniform airflow profile.” (*Id.*) (Dkt. No. 45-3 at 12) (May 28, 1999 Preliminary Amendment). Plaintiff argues that one of skill in the art would understand that “substantially constant” in the claim refers to a relatively flat or relatively uniform velocity across the width of the chamber. (*Id.*)

Plaintiff further argues that Defendant incorrectly seeks a precise numerical measurement of what constitutes “substantially constant.” (*Id.* at 32.) Plaintiff contends that even though precise numerical measurements are not required, the preferred embodiment of the '028 Patent provides one. (*Id.*) (citing '028 Patent at 3:42–44, 4:29–31). Plaintiff also argues that Defendant do not address the cited intrinsic record. (*Id.*) Plaintiff contends that whether the boundary layer effects prevent the airflow from being “substantially constant across the width” is an issue of infringement that the jury must decide. (*Id.*) Plaintiff also argues that Defendant and its expert understood the concept of “airflow being substantially constant across the width of the chamber” when they filed the petition for *inter partes* review and asserted that “airflow being constant across the width ... [was] well known in the prior art when the '028 Patent was filed.” (*Id.*)

For the following reasons, the Court finds that the phrase **“said airflow being substantially constant across the width of the chamber”** is not indefinite and should be given

its plain and ordinary meaning.

**b) Analysis**

The phrase “said airflow being substantially constant across the width of the chamber” appears in claims 18, 19, and 43 of the ’028 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the disputed phrase, when read in light of the specification delineating the patent and the prosecution history, informs, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

Prior to *Nautilus*, a claim was indefinite only if a challenger could prove, by clear and convincing evidence, that it was “not amenable to construction” or was “insolubly ambiguous.” *Halliburton Energy Servs., Inc. v. M-I, LLC*, 514 F.3d 1244, 1249–50 (Fed. Cir. 2008) (citing *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005)). In *Nautilus*, the Supreme Court stated that the new “reasonable certainty” standard “mandates clarity while recognizing that absolute precision is unattainable.” *Nautilus*, 134 S. Ct. at 2124. Accordingly, the Federal Circuit has held that a term of degree is not inherently indefinite. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014).

According to Defendant, the phrase is indefinite because boundary layer effects make it technically impossible to achieve a constant airflow across the width of the chamber. (Dkt. No. 55 at 34.) The Court disagrees with Defendant’s analysis because the specification provides concrete examples that indicate with reasonable certainty the scope of the disputed phrase. The specification states that the diameter of the flight chamber is between 10 and 13 feet. ’028 Patent at 5:49-51. Given this width, the parties appear to agree that the boundary layer would be a very

small percentage of the width of the chamber.<sup>3</sup> Thus, a person of ordinary skill in the art would understand that it is technically possible for the airflow to be “substantially constant” across the width of the chamber. In other words, a person of ordinary skill in the art would understand that the use of the word “substantially” accounts, at least in part, for the boundary layer effect.

Indeed, in discussing the airflow, the specification states the following:

The shape of the inlet contraction allows a relatively smooth airflow to enter the flight chamber. This reduces the amount of turbulence in the flight chamber, thereby adding to the enjoyment of the flight experience. It also results in a relatively flat airflow velocity profile across the width of the flight chamber. This eliminates areas of the flight chamber having differing airflow velocities which might otherwise cause the user to “fall off” the supporting airflow column.

’028 Patent at 5:35–43. Thus, the phrase “substantially constant across the width of the chamber” refers to preventing the user from falling off the airflow column by providing a constant airflow velocity up to the boundary layer. Indeed, the specification states that what the prior art lacked was a flight chamber that provided “improved airflow control and stability.” ’028 Patent at 2:39. The specification discloses fulfilling this need by providing an airflow that fully supports a user. ’028 Patent at Abstract (“Airflow sufficient to fully support a user within the flight chamber is induced by a plurality of fans connected above the flight chamber through a duct.”), 3:42–44 (“The airflow velocity in the flight chamber is approximately 120+ mph, which will fully support a user.”), 8:32–34 (“Once supported in the airflow, a user may perform all of the maneuvers which a skydiver could otherwise only perform during an actual freefall.”).

Therefore, contrary to Defendant’s contention, the phrase “said airflow being

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<sup>3</sup> The parties’ experts agree that there is a boundary layer that includes the airflow velocity dropping to zero at the wall. (Dkt. No. 55-2 at 10-11 (August 25, 2015 Deposition of Raymond Whipple)); (Dkt. No. 55-9 at 13-14 (Declaration of Dr. Werner Dahm)). Plaintiff’s expert further testified that the boundary layer is a very small dimension and is in the range of a fraction of an inch. (Dkt. No. 55-2 at 11-12) (August 25, 2015 Depo. of Raymond Whipple at 66:16-21, 67:11-17). Similarly, Defendant agreed at the claim construction hearing that the boundary layer drops off quickly.

substantially constant across the width of the chamber” does not make the claim technically impossible. Accordingly, the Court finds that the disputed phrase when read in light of the specification delineating the patent and the prosecution history, informs, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Finally, the Court has considered the remaining extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

**c) Court’s Construction**

In light of the evidence submitted by the parties, the phrase “**said airflow being substantially constant across the width of the chamber**” will be given its plain and ordinary meaning.

**V. CONCLUSION**

The Court adopts the above constructions. The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

**It is SO ORDERED.**

**SIGNED this 17th day of December, 2015.**



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ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE